



**CTEH**

**June 04, 2025**

**Kyle Lawrence**

**5120 North Shore Drive**

**North Little Rock AR 72118**

**Project Name - PROJ-054017**

**Project Number - PROJ-054017**

Attached are your analytical results for PROJ-054017 received by Origins Laboratory May 23, 2025. This project is associated with Origins project number E5E0850-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory  
303.433.1322  
projectmanager@originslab.com



**1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645**



CTEH  
5120 North Shore Drive  
North Little Rock AR 72118

Kyle Lawrence  
Project Number: PROJ-054017  
Project: PROJ-054017

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GACO0522T060S001	E5E0850-01	Soil	May 22, 2025 16:40	05/23/2025 07:55


Origins Laboratory

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Jen Pellegrini For Jordan A. Bynon, Project Manager

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		Chain of Custody Record Lab No: <b>E5E0850</b> Page: _____ of _____		Turn Around Time (rush by advanced notice only) Standard: 5 Day: _____ 3 Day: _____ 2 Day: _____ Custom (AT) ASAP	
Matrix: A = Air S = Soil/Solid W = Water DW = Drinking Water P = Product O = Oil SD = Sediment T = Tissue WP = Wire WW = Wastewater X = Other		Sample Type: C = Composite G = Grab or Discrete B = Blank O = Other		Preservatives: 0 = none 1 = H <sub>2</sub> O <sub>2</sub> 2 = HCl 3 = HNO <sub>3</sub> 4 = H <sub>2</sub> SO <sub>4</sub> 5 = NaOH 6 = Other	
Matrix Receipt Temp and Notes: 1.3 low (lab use only)		Analysis Request Test Instructions / Comments			
<b>CUSTOMER INFORMATION</b> Company: CTEH Report To: Chevron-Bishop; Kyle Lawrence; Eric Galina; Andrew Heazlett; Tami Modulin; Ardelynn Winkelman Email: <a href="mailto:arwin@montrose-env.com">arwin@montrose-env.com</a> ; <a href="mailto:erwin@montrose-env.com">erwin@montrose-env.com</a> ; <a href="mailto:twmodulin@montrose-env.com">twmodulin@montrose-env.com</a> Address: 5120 Northshore Dr, North Little Rock, AR 72113 Phone: _____ Site Name: Galena, CO Phone: _____ Global ID: _____ Billing Instruction: <a href="mailto:ctehap@montrose-env.com">ctehap@montrose-env.com</a>		<b>PROJECT INFORMATION</b> Name: PROJ-054017 Number: _____ P.O. #: _____		Bisshop Loss of Containment	
Sample ID 1. GAC0852210085081 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____		Sampling Date: 5/22/2025 Sampling Time (24 hr): 16:40:5 Matrix: G Sample Type: G Cont. No.: 2 Cont. Size: 4.0Z		Initials: _____ MS/MSD VOCs 8260D Table 915, minus Chromium VI X	
Signature: <i>M. Bishop</i> Print Name: Matthew Bishop Date / Time: 5-22-25 1600		Signature: _____ Print Name: _____ Date / Time: _____		Signature: _____ Print Name: _____ Date / Time: _____	

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Jen Pellegrini For Jordan A. Bynon, Project Manager

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Origins Laboratory

F-012207-01-R1  
 Effective Date: 01/09/12

**Sample Receipt Checklist**

Origins Work Order: ESE0850

Client: CTEH

Client Project ID: PROJ-054017

Checklist Completed by: NKM/gmc

Shipped Via: HD  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 05/23/25

Airbill #: N/A

Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_

Cooler Number/Temperature: 1 / 1.3 °C (Describe)

Thermometer ID: T-007

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>			
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH < 2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
<b>Additional Comments (if any):</b>				

<sup>(1)</sup>If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

05/23/25  
 Date/Time Reviewed

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Jen Pellegrini For Jordan A. Bynon, Project Manager

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**GACO0522T060S001**  
**5/22/2025 4:40:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
<b>E5E0850-01 (Soil)</b>									
<b>Origins Laboratory</b>									
<b>Boron (DTPA Sorbitol)</b>									
Boron	0.699		0.100	mg/L	1	B5E2351	05/23/2025	05/28/2025	
<b>DRO/ORO by EPA 8015D</b>									
Diesel (C10-C28)	ND		25.0	mg/kg	1	B5E2367	05/23/2025	05/23/2025	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U
Surrogate: o-Terphenyl	75.3 %				50-150	"	"	"	
<b>GBTEX+TMBs by 8260D</b>									
1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B5E2368	05/23/2025	05/25/2025	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	105 %				70-130	"	"	"	
Surrogate: Toluene-d8	101 %				70-130	"	"	"	
Surrogate: 4-Bromofluorobenzene	93.6 %				70-130	"	"	"	

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**5/22/2025 4:40:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0850-01 (Soil)**  
**Origins Laboratory**

**Metals by Saturated Paste by EPA 6010**

Calcium	1.18		0.499	meq/L	10	[CALC]	05/23/2025	05/29/2025	
Magnesium	2.00		0.823	"	"	"	"	"	
Sodium	4.02		0.435	"	"	"	"	"	

**PAH by EPA 8270E extracted via 3580A**

1-Methylnaphthalene	ND		0.002	mg/kg	1	B5E2364	05/23/2025	05/24/2025	U
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	U
Acenaphthene	ND		0.020	"	"	"	"	"	U
Anthracene	ND		0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	U
Chrysene	ND		0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	U
Fluoranthene	ND		0.020	"	"	"	"	"	U
Fluorene	ND		0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

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**GACO0522T060S001**  
**5/22/2025 4:40:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0850-01 (Soil)**  
**Origins Laboratory**

**PAH by EPA 8270E extracted via 3580A**

Surrogate: Fluorene-d10	99.2 %			60-130		B5E2364	05/23/2025	05/24/2025	
Surrogate: Anthracene-d10	102 %			60-130		"	"	"	
Surrogate: Pyrene-d10	112 %			60-130		"	"	"	
Surrogate: Benzo (a) pyrene-d12	110 %			60-130		"	"	"	

**pH in Soil by 9045D**

pH	8.49			pH Units	1	B5E2357	05/23/2025	05/28/2025	
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**SAR by 20B Saturated Paste**

SAR	3.19		0.0100	SAR	1	B5E2354	05/23/2025	05/29/2025	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.738		0.00500	mmhos/cm	1	B5E2357	05/23/2025	05/28/2025	
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**Table 915 metals by EPA 6020B**

Arsenic	2.98		0.243	mg/kg	10	B5E2340	05/23/2025	05/27/2025	
Barium	ND		68.7	"	"	"	"	"	U
Cadmium	0.411		0.318	"	"	"	"	"	
Copper	ND		38.5	"	"	"	"	"	U
Lead	12.7		11.7	"	"	"	"	"	
Nickel	ND		21.8	"	"	"	"	"	U

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**5/22/2025 4:40:00PM**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**E5E0850-01 (Soil)**  
**Origins Laboratory**

**Table 915 metals by EPA 6020B**

Selenium	0.744		0.218	mg/kg	10	B5E2340	05/23/2025	05/27/2025	
Silver	ND		0.670	"	"	"	"	"	U
Zinc	ND		310	"	"	"	"	"	U

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**Classical Chemistry Parameters - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2351 - DTPA Sorbitol Preparation**

**Blank (B5E2351-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/28/2025

Boron	ND	0.100	mg/L							U
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**Duplicate (B5E2351-DUP1)**

Source: E5E0842-18

Prepared: 05/23/2025 Analyzed: 05/28/2025

Boron	1.75	0.0999	mg/L		1.62			7.84	50	
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**Batch B5E2354 - Saturated Paste Metals**

**Blank (B5E2354-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/29/2025

SAR	ND	0.0100	SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U

**Duplicate (B5E2354-DUP1)**

Source: E5E0842-18

Prepared: 05/23/2025 Analyzed: 05/29/2025

SAR	ND	0.0100	SAR		0.655				200	U
Calcium PPM	53.0	10.0	mg/L		43.8			19.2	50	
Magnesium PPM	27.2	10.0	"		21.6			22.7	50	
Sodium PPM	18.8	10.0	"		21.2			12.3	50	

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**EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2364 - EPA 3580**

**Blank (B5E2364-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/24/2025

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		99.8	60-130			
Surrogate: Anthracene-d10	220		"	200		108	60-130			
Surrogate: Pyrene-d10	230		"	200		113	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		109	60-130			

**LCS (B5E2364-BS1)**

Prepared: 05/23/2025 Analyzed: 05/24/2025

1-Methylnaphthalene	0.190	0.002	mg/kg	0.200		95.0	70-130			
2-Methylnaphthalene	0.187	0.002	"	0.200		93.4	70-130			
Acenaphthene	0.222	0.020	"	0.200		111	70-130			
Anthracene	0.219	0.020	"	0.200		109	70-130			

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**EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control**  
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2364 - EPA 3580**

**LCS (B5E2364-BS1)**

Prepared: 05/23/2025 Analyzed: 05/24/2025

Benzo (a) anthracene	0.232	0.005	mg/kg	0.200		116	70-130			
Benzo (a) pyrene	0.239	0.020	"	0.200		119	70-130			
Benzo (b) fluoranthene	0.222	0.020	"	0.200		111	70-130			
Benzo (g,h,i) perylene	0.226	0.020	"	0.200		113	70-130			
Benzo (k) fluoranthene	0.218	0.020	"	0.200		109	70-130			
Chrysene	0.225	0.020	"	0.200		113	70-130			
Dibenz (a,h) anthracene	0.225	0.020	"	0.200		112	70-130			
Fluoranthene	0.238	0.020	"	0.200		119	70-130			
Fluorene	0.197	0.020	"	0.200		98.7	70-130			
Indeno (1,2,3-cd) pyrene	0.234	0.020	"	0.200		117	70-130			
Naphthalene	0.195	0.002	"	0.200		97.6	70-130			
Phenanthrene	0.216	0.020	"	0.200		108	70-130			
Pyrene	0.240	0.020	"	0.200		120	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.6	60-130			
Surrogate: Anthracene-d10	210		"	200		103	60-130			
Surrogate: Pyrene-d10	220		"	200		110	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		111	60-130			

**Matrix Spike (B5E2364-MS1)**

**Source: E5E0832-02**

Prepared: 05/23/2025 Analyzed: 05/24/2025

1-Methylnaphthalene	0.204	0.002	mg/kg	0.200	0.0009	102	70-130			
2-Methylnaphthalene	0.198	0.002	"	0.200	ND	99.1	70-130			
Acenaphthene	0.234	0.020	"	0.200	0.0006	117	70-130			
Anthracene	0.218	0.020	"	0.200	0.002	108	70-130			
Benzo (a) anthracene	0.245	0.005	"	0.200	0.003	121	70-130			
Benzo (a) pyrene	0.253	0.020	"	0.200	0.005	124	70-130			
Benzo (b) fluoranthene	0.236	0.020	"	0.200	0.004	116	70-130			
Benzo (g,h,i) perylene	0.246	0.020	"	0.200	0.004	121	70-130			

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**EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2364 - EPA 3580**

**Matrix Spike (B5E2364-MS1)**

**Source: E5E0832-02**

Prepared: 05/23/2025 Analyzed: 05/24/2025

Benzo (k) fluoranthene	0.239	0.020	mg/kg	0.200	0.003	118	70-130			
Chrysene	0.233	0.020	"	0.200	0.004	114	70-130			
Dibenz (a,h) anthracene	0.236	0.020	"	0.200	0.007	114	70-130			
Fluoranthene	0.255	0.020	"	0.200	0.003	126	70-130			
Fluorene	0.207	0.020	"	0.200	0.002	103	70-130			
Indeno (1,2,3-cd) pyrene	0.254	0.020	"	0.200	0.008	123	70-130			
Naphthalene	0.211	0.002	"	0.200	ND	106	70-130			
Phenanthrene	0.224	0.020	"	0.200	0.003	110	70-130			
Pyrene	0.257	0.020	"	0.200	0.003	127	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.9	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	220		"	200		111	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		111	60-130			

**Matrix Spike Dup (B5E2364-MSD1)**

**Source: E5E0832-02**

Prepared: 05/23/2025 Analyzed: 05/24/2025

1-Methylnaphthalene	0.200	0.002	mg/kg	0.200	0.0009	99.7	70-130	1.92	20	
2-Methylnaphthalene	0.195	0.002	"	0.200	ND	97.6	70-130	1.56	20	
Acenaphthene	0.229	0.020	"	0.200	0.0006	114	70-130	2.22	20	
Anthracene	0.226	0.020	"	0.200	0.002	112	70-130	3.45	20	
Benzo (a) anthracene	0.247	0.005	"	0.200	0.003	122	70-130	0.706	20	
Benzo (a) pyrene	0.251	0.020	"	0.200	0.005	123	70-130	0.714	20	
Benzo (b) fluoranthene	0.231	0.020	"	0.200	0.004	114	70-130	2.13	20	
Benzo (g,h,i) perylene	0.240	0.020	"	0.200	0.004	118	70-130	2.22	20	
Benzo (k) fluoranthene	0.233	0.020	"	0.200	0.003	115	70-130	2.67	20	
Chrysene	0.226	0.020	"	0.200	0.004	111	70-130	2.75	20	
Dibenz (a,h) anthracene	0.232	0.020	"	0.200	0.007	112	70-130	1.64	20	
Fluoranthene	0.247	0.020	"	0.200	0.003	122	70-130	2.92	20	

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Jen Pellegrini For Jordan A. Bynon, Project Manager



CTEH  
 5120 North Shore Drive  
 North Little Rock AR 72118

Kyle Lawrence  
 Project Number: PROJ-054017  
 Project: PROJ-054017

**EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2364 - EPA 3580**

**Matrix Spike Dup (B5E2364-MSD1)**

**Source: E5E0832-02**

Prepared: 05/23/2025 Analyzed: 05/24/2025

Fluorene	0.207	0.020	mg/kg	0.200	0.002	103	70-130	0.288	20	
Indeno (1,2,3-cd) pyrene	0.252	0.020	"	0.200	0.008	122	70-130	0.710	20	
Naphthalene	0.207	0.002	"	0.200	ND	103	70-130	2.03	20	
Phenanthrene	0.223	0.020	"	0.200	0.003	110	70-130	0.529	20	
Pyrene	0.250	0.020	"	0.200	0.003	124	70-130	2.62	20	
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	220		"	200		110	60-130			
Surrogate: Benzo (a) pyrene-d12	220		"	200		110	60-130			

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 Project: PROJ-054017

**Extractable Petroleum Hydrocarbons by 8015D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2367 - EPA 3550B**

**Blank (B5E2367-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/23/2025

Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	24.9		79.3	50-150			

**LCS (B5E2367-BS1)**

Prepared: 05/23/2025 Analyzed: 05/23/2025

Diesel (C10-C28)	826	50.0	mg/kg	1000		82.6	70-130			
Residual Range Organics (C28-C40)	933	200	"	1000		93.3	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.1	50-150			

**Matrix Spike (B5E2367-MS1)**

**Source: E5E0842-20**

Prepared: 05/23/2025 Analyzed: 05/23/2025

Diesel (C10-C28)	869	50.0	mg/kg	1000	ND	86.9	70-130			
Residual Range Organics (C28-C40)	990	200	"	1000	ND	99.0	70-130			
Surrogate: o-Terphenyl	44		"	49.8		87.6	50-150			

**Matrix Spike Dup (B5E2367-MSD1)**

**Source: E5E0842-20**

Prepared: 05/23/2025 Analyzed: 05/23/2025

Diesel (C10-C28)	872	50.0	mg/kg	1000	ND	87.2	70-130	0.349	35	
Residual Range Organics (C28-C40)	1010	200	"	1000	ND	101	70-130	2.36	35	
Surrogate: o-Terphenyl	44		"	49.8		88.2	50-150			

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 Project Number: PROJ-054017  
 Project: PROJ-054017

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2340 - EPA 3050B**

**Blank (B5E2340-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/27/2025

Arsenic	ND	0.290	mg/kg							U
Barium	ND	82.0	"							U
Cadmium	ND	0.380	"							U
Copper	ND	46.0	"							U
Lead	ND	14.0	"							U
Nickel	ND	26.0	"							U
Selenium	ND	0.260	"							U
Silver	ND	0.800	"							U
Zinc	ND	370	"							U

**LCS (B5E2340-BS1)**

Prepared: 05/23/2025 Analyzed: 05/27/2025

Arsenic	5.40	0.290	mg/kg	5.00		108	80-120			
Barium	540	82.0	"	500		108	80-120			
Cadmium	5.47	0.380	"	5.00		109	80-120			
Copper	52.0	46.0	"	50.0		104	80-120			
Lead	5.39	14.0	"	5.00		108	80-120			U
Nickel	5.20	26.0	"	5.00		104	80-120			U
Selenium	5.51	0.260	"	5.00		110	80-120			
Silver	5.91	0.800	"	5.00		118	80-120			
Zinc	54.7	370	"	50.0		109	80-120			U

**Matrix Spike (B5E2340-MS1)**

**Source: E5E0842-01**

Prepared: 05/23/2025 Analyzed: 05/27/2025

Arsenic	9.07	0.272	mg/kg	4.68	3.95	109	75-125			
Barium	616	76.8	"	468	91.8	112	75-125			
Cadmium	5.56	0.356	"	4.68	0.542	107	75-125			
Copper	68.7	43.1	"	46.8	16.3	112	75-125			
Lead	119	13.1	"	4.68	39.8	NR	75-125			QM-07

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 Project: PROJ-054017

**Metals by EPA 6000/7000 Series Methods - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2340 - EPA 3050B**

**Matrix Spike (B5E2340-MS1)**

**Source: E5E0842-01**

Prepared: 05/23/2025 Analyzed: 05/27/2025

Nickel	17.8	24.4	mg/kg	4.68	11.7	131	75-125			QM-07, U
Selenium	5.07	0.244	"	4.68	0.272	103	75-125			
Silver	5.45	0.749	"	4.68	0.0411	116	75-125			
Zinc	283	347	"	46.8	231	111	75-125			U

**Matrix Spike Dup (B5E2340-MSD1)**

**Source: E5E0842-01**

Prepared: 05/23/2025 Analyzed: 05/27/2025

Arsenic	9.02	0.263	mg/kg	4.53	3.95	112	75-125	0.540	20	
Barium	574	74.3	"	453	91.8	106	75-125	7.15	20	
Cadmium	5.33	0.344	"	4.53	0.542	106	75-125	4.22	20	
Copper	66.4	41.7	"	45.3	16.3	111	75-125	3.33	20	
Lead	55.8	12.7	"	4.53	39.8	353	75-125	72.2	20	QM-07, QR-DUP
Nickel	18.1	23.5	"	4.53	11.7	141	75-125	1.42	20	QM-07, U
Selenium	4.86	0.235	"	4.53	0.272	101	75-125	4.28	20	
Silver	5.14	0.725	"	4.53	0.0411	113	75-125	6.00	20	
Zinc	280	335	"	45.3	231	108	75-125	1.21	20	U

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**Saturated Paste - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2357 - Saturated Paste pH/EC**

**Blank (B5E2357-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/28/2025

Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
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**Duplicate (B5E2357-DUP1)**

**Source: E5E0842-18**

Prepared: 05/23/2025 Analyzed: 05/28/2025

Specific Conductance (EC)	0.737	0.00500	mmhos/cm		0.584			23.0	25	
pH	8.20		pH Units		8.28			0.971	25	

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**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2368 - EPA 5030 (soil)**

**Blank (B5E2368-BLK1)**

Prepared: 05/23/2025 Analyzed: 05/25/2025

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U

Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	101	70-130				
Surrogate: Toluene-d8	0.13		"	0.125	101	70-130				
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.9	70-130				

**LCS (B5E2368-BS1)**

Prepared: 05/23/2025 Analyzed: 05/25/2025

1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100	105	70-130				
1,3,5-Trimethylbenzene	0.107	0.00200	"	0.100	107	70-130				
Benzene	0.0962	0.00200	"	0.100	96.2	70-130				
Ethylbenzene	0.107	0.00200	"	0.100	107	70-130				
Naphthalene	0.0927	0.00380	"	0.100	92.7	70-130				
Toluene	0.0970	0.00200	"	0.100	97.0	70-130				
o-Xylene	0.105	0.00200	"	0.100	105	70-130				
m,p-Xylene	0.219	0.00400	"	0.200	109	70-130				

Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125	97.5	70-130				
Surrogate: Toluene-d8	0.13		"	0.125	100	70-130				
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	103	70-130				

**Matrix Spike (B5E2368-MS1)**

Source: E5E0842-20

Prepared: 05/23/2025 Analyzed: 05/25/2025

1,2,4-Trimethylbenzene	0.126	0.00200	mg/kg	0.100	ND	126	70-130			
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 North Little Rock AR 72118

Kyle Lawrence  
 Project Number: PROJ-054017  
 Project: PROJ-054017

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5E2368 - EPA 5030 (soil)**

<b>Matrix Spike (B5E2368-MS1)</b>		<b>Source: E5E0842-20</b>			<b>Prepared: 05/23/2025 Analyzed: 05/25/2025</b>					
1,3,5-Trimethylbenzene	0.129	0.00200	mg/kg	0.100	ND	129	70-130			
Benzene	0.103	0.00200	"	0.100	ND	103	70-130			
Ethylbenzene	0.131	0.00200	"	0.100	ND	131	70-130			QM-07
Naphthalene	0.0923	0.00380	"	0.100	ND	92.3	70-130			
Toluene	0.111	0.00200	"	0.100	ND	111	70-130			
o-Xylene	0.127	0.00200	"	0.100	ND	127	70-130			
m,p-Xylene	0.266	0.00400	"	0.200	ND	133	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.7	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

<b>Matrix Spike Dup (B5E2368-MSD1)</b>		<b>Source: E5E0842-20</b>			<b>Prepared: 05/23/2025 Analyzed: 05/25/2025</b>					
1,2,4-Trimethylbenzene	0.107	0.00200	mg/kg	0.100	ND	107	70-130	16.0	20	
1,3,5-Trimethylbenzene	0.109	0.00200	"	0.100	ND	109	70-130	17.1	20	
Benzene	0.0978	0.00200	"	0.100	ND	97.8	70-130	5.29	20	
Ethylbenzene	0.108	0.00200	"	0.100	ND	108	70-130	18.9	20	
Naphthalene	0.100	0.00380	"	0.100	ND	100	70-130	8.41	20	
Toluene	0.0995	0.00200	"	0.100	ND	99.5	70-130	10.6	20	
o-Xylene	0.107	0.00200	"	0.100	ND	107	70-130	16.7	20	
m,p-Xylene	0.222	0.00400	"	0.200	ND	111	70-130	18.4	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Jen Pellegrini For Jordan A. Bynon, Project Manager

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Kyle Lawrence  
Project Number: PROJ-054017  
Project: PROJ-054017

### Notes and Definitions

U Sample is Non-Detect.

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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